

SEQUENCE LISTING

<110> Takeda Pharmaceutical Company Limited

<120> A Novel Ligand For FPRL1 And Its Use

<130> G05-0027

<150> JP 2002-324189

<151> 2002-11-07

<150> JP 2002-367119

<151> 2002-12-18

<150> JP 2003-59073

<151> 2003-03-05

<150> JP 2003-191359

<151> 2003-07-03

<150> PCT/JP03/14138

<151> 2003-11-06

<160> 24

<210> 1

<211> 13

<212> PRT

<213> Porcine

<400> 1

Met Phe Val Asn Arg Trp Leu Tyr Ser Thr Asn His Lys

1

5

10

<210> 2

<211> 351

<212> PRT

<213> Human

<400> 2

Met Glu Thr Asn Phe Ser Thr Pro Leu Asn Glu Tyr Glu Glu Val Ser
5 10 15
Tyr Glu Ser Ala Gly Tyr Thr Val Leu Arg Ile Leu Pro Leu Val Val
20 25 30
Leu Gly Val Thr Phe Val Leu Gly Val Leu Gly Asn Gly Leu Val Ile
35 40 45
Trp Val Ala Gly Phe Arg Met Thr Arg Thr Val Thr Thr Ile Cys Tyr
50 55 60
Leu Asn Leu Ala Leu Ala Asp Phe Ser Phe Thr Ala Thr Leu Pro Phe
65 70 75 80
Leu Ile Val Ser Met Ala Met Gly Glu Lys Trp Pro Phe Gly Trp Phe
85 90 95
Leu Cys Lys Leu Ile His Ile Val Val Asp Ile Asn Leu Phe Gly Ser
100 105 110
Val Phe Leu Ile Gly Phe Ile Ala Leu Asp Arg Cys Ile Cys Val Leu
115 120 125
His Pro Val Trp Ala Gln Asn His Arg Thr Val Ser Leu Ala Met Lys
130 135 140
Val Ile Val Gly Pro Trp Ile Leu Ala Leu Val Leu Thr Leu Pro Val
145 150 155 160
Phe Leu Phe Leu Thr Thr Val Thr Ile Pro Asn Gly Asp Thr Tyr Cys
165 170 175
Thr Phe Asn Phe Ala Ser Trp Gly Gly Thr Pro Glu Glu Arg Leu Lys
180 185 190
Val Ala Ile Thr Met Leu Thr Ala Arg Gly Ile Ile Arg Phe Val Ile
195 200 205
Gly Phe Ser Leu Pro Met Ser Ile Val Ala Ile Cys Tyr Gly Leu Ile
210 215 220
Ala Ala Lys Ile His Lys Lys Gly Met Ile Lys Ser Ser Arg Pro Leu
225 230 235 240
Arg Val Leu Thr Ala Val Val Ala Ser Phe Phe Ile Cys Trp Phe Pro
245 250 255
Phe Gln Leu Val Ala Leu Leu Gly Thr Val Trp Leu Lys Glu Met Leu

| | | |
|---|-----|-----|
| 260 | 265 | 270 |
| Phe Tyr Gly Lys Tyr Lys Ile Ile Asp Ile Leu Val Asn Pro Thr Ser | | |
| 275 | 280 | 285 |
| Ser Leu Ala Phe Phe Asn Ser Cys Leu Asn Pro Met Leu Tyr Val Phe | | |
| 290 | 295 | 300 |
| Val Gly Gln Asp Phe Arg Glu Arg Leu Ile His Ser Leu Pro Thr Ser | | |
| 305 | 310 | 315 |
| Leu Glu Arg Ala Leu Ser Glu Asp Ser Ala Pro Thr Asn Asp Thr Ala | | |
| 325 | 330 | 335 |
| Ala Asn Ser Ala Ser Pro Pro Ala Glu Thr Glu Leu Gln Ala Met | | |
| 340 | 345 | 350 |

<210> 3

<211> 1053

<212> DNA

<213> Human

<400> 3

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| atggaaacca acttctccac | tcctctgaat | gaatatgaag | aagtgtccta | tgagtctgct | 60 |
| ggctacactg ttctgcggat | cctcccattg | gtgggtgctt | gggtcacctt | tgtcctcggt | 120 |
| gtcctggca atgggcttgt | gatctgggtg | gctggattcc | ggatgacacg | cacagtcacc | 180 |
| accatctgtt acctgaacct | ggccctggct | gactttctt | tcacggccac | attaccattc | 240 |
| ctcattgtct ccatggccat | gggagaaaaaa | tggcctttt | gctggttcct | gtgttaagtt | 300 |
| attcacatcg tggtgacat | caacctctt | ggaagtgtct | tcttgattgg | tttcattgca | 360 |
| ctggaccgct gcatttgtgt | cctgcatcca | gtctggccccc | agaaccacccg | cactgtgagt | 420 |
| ctggccatga aggtgatcgt | cggaccttgg | attcttgctc | tagtccttac | cttgcagtt | 480 |
| ttcctcttt tgactacagt | aactattcca | aatggggaca | catactgtac | tttcaacttt | 540 |
| gcatccctgg gtggcacccc | tgaggagagg | ctgaagggtgg | ccattaccat | gctgacagcc | 600 |
| agagggatta tccggttgt | cattggcttt | agcttggcga | tgtccattgt | tgccatctgc | 660 |
| tatggctca ttgcagccaa | gatccacaaa | aagggcatga | ttaaatccag | ccgtccctta | 720 |
| cgggtccctca ctgctgttgt | ggcttcttcc | ttcatctgtt | ggtttccctt | tcaactggtt | 780 |
| gcccttctgg gcaccgtctg | gctcaaagag | atgttggtct | atggcaagta | caaaatcatt | 840 |
| gacatccctgg ttaacccaaac | gagctccctg | gccttctca | acagctgcct | caaccccatg | 900 |
| ctttacgtct ttgtgggcca | agacttccga | gagagactga | tccactccct | gcccaccagt | 960 |
| ctggagaggg ccctgtctga | ggactcagcc | ccaaactaatg | acacggctgc | caattctgct | 1020 |
| tcacccctcg cagagactga | gttacaggca | atg | | | 1053 |

<210> 4

<211> 351

<212> PRT

<213> Rat

<400> 4

Met Glu Ala Asn Tyr Ser Ile Pro Leu Asn Val Ser Glu Val Val Val
5 10 15
Tyr Asp Ser Thr Ile Ser Arg Val Leu Trp Ile Leu Thr Met Val Val
20 25 30
Leu Ser Ile Thr Phe Val Leu Gly Val Leu Gly Asn Gly Leu Val Ile
35 40 45
Trp Val Ala Gly Phe Arg Met Val His Thr Val Thr Thr Cys Phe
50 55 60
Leu Asn Leu Ala Leu Ala Asp Phe Ser Phe Thr Val Thr Leu Pro Phe
65 70 75 80
Phe Val Ile Ser Ile Ala Met Lys Glu Lys Trp Pro Phe Gly Trp Phe
85 90 95
Leu Cys Lys Leu Val His Ile Val Val Asp Ile Asn Leu Phe Gly Ser
100 105 110
Val Phe Leu Ile Ala Leu Ile Ala Leu Asp Arg Cys Ile Cys Val Leu
115 120 125
His Pro Val Trp Ala Gln Asn His Arg Thr Val Ser Leu Ala Arg Lys
130 135 140
Val Val Val Gly Pro Trp Ile Leu Ala Leu Ile Leu Thr Leu Pro Ile
145 150 155 160
Phe Ile Phe Met Thr Thr Val Arg Ile Pro Gly Gly Asn Val Tyr Cys
165 170 175
Thr Phe Asn Phe Ala Ser Trp Gly Asn Thr Ala Glu Glu Leu Leu Asn
180 185 190
Ile Ala Asn Thr Phe Val Thr Val Arg Gly Ser Ile Arg Phe Ile Ile
195 200 205
Gly Phe Ile Met Pro Met Ser Ile Val Ala Ile Cys Tyr Gly Leu Ile
210 215 220
Ala Val Lys Ile His Arg Arg Ala Leu Val Asn Ser Ser Arg Pro Leu

| | | | |
|---|-----|-----|-----|
| 225 | 230 | 235 | 240 |
| Arg Val Leu Thr Ala Val Val Ala Ser Phe Phe Ile Cys Trp Phe Pro | | | |
| 245 | 250 | 255 | |
| Phe Gln Leu Val Ala Leu Leu Gly Thr Ile Trp Phe Lys Glu Ser Leu | | | |
| 260 | 265 | 270 | |
| Phe Ser Gly Arg Tyr Lys Ile Leu Asp Met Trp Val His Pro Thr Ser | | | |
| 275 | 280 | 285 | |
| Ser Leu Ala Tyr Phe Asn Ser Cys Leu Asn Pro Met Leu Tyr Ala Phe | | | |
| 290 | 295 | 300 | |
| Met Gly Gln Asp Phe His Glu Arg Leu Ile His Ser Leu Pro Ser Ser | | | |
| 305 | 310 | 315 | 320 |
| Leu Glu Arg Ala Leu Ser Glu Asp Ser Gly Gln Thr Ser Asp Thr Gly | | | |
| 325 | 330 | 335 | |
| Ile Ser Ser Ala Leu Pro Pro Val Asn Ile Asp Ile Lys Ala Ile | | | |
| 340 | 345 | 350 | |

<210> 5

<211> 1053

<212> DNA

<213> Rat

<400> 5

| | | | | | | |
|-------------|------------|------------|------------|-------------|-------------|-----|
| atggaagcca | actattccat | ccctctgaat | gtatcagaag | tggtgtcta | tgattciacc | 60 |
| atctccagag | ttttgtggat | cctacaatg | gtggttctct | ccatcacctt | tgtcctgggt | 120 |
| gtgctggta | atggactagt | gatctggta | gctggattcc | ggatggtaca | cactgtcacc | 180 |
| actacctgtt | ttctgaatct | agcttggct | gacttcttt | tcacagtgac | tctaccattc | 240 |
| tttgcatct | caattgttat | gaaagaaaaa | tggcctttt | gatggccct | gtgtaaattta | 300 |
| gttcacatig | tagtagacat | aaacctcttt | ggaagtgtct | tcctgattgc | tttaatigcc | 360 |
| ttggaccgct | gcatttgtt | cctgcattca | gtctgggctc | agaaccacccg | cactgtgagc | 420 |
| ctggcttagga | aggtggttgt | tggccctgg | attttagctc | tgattctcac | tttgcattt | 480 |
| tttattttca | tgactacagt | tagaattcct | ggaggcaatg | tgtactgtac | attcaacttc | 540 |
| gcattcctggg | gtaacactgc | tgaagaacta | ttgaacatag | ctaacacttt | tgtaacagtt | 600 |
| agagggagca | tcaggttcat | tattggcttc | ataatgccta | tgtccattgt | tgccatctgc | 660 |
| tatggactca | tcgctgtcaa | gatccacaga | agagcacttg | ttaattccag | ccgtccattta | 720 |
| agagtccctta | cagcagttgt | ggcttccttc | tttatctgtt | ggttccctt | tcaactggtg | 780 |
| gccccttttag | gtacaatctg | gtttaaagag | tcattgtta | gtggtcgtta | caaaattctt | 840 |

| | |
|--|------|
| gacatgtggg ttcacccaac cagctcattg gcctacttca atagttgcct caatccaatg | 900 |
| ctctatgcct tcattggcca ggacttcat gaaagactga ttcatccct gccttccagt | 960 |
| ctggagagag ccctgagtgaa ggactctggc caaaccagtg atacaggcat cagttctgct | 1020 |
| ttacctcctg taaacattgataaaaaagca ata | 1053 |

<210> 6

<211> 351

<212> PRT

<213> Mouse

<400> 6

| | | | |
|---|-----|-----|-----|
| Met Glu Ser Asn Tyr Ser Ile His Leu Asn Gly Ser Glu Val Val Val | | | |
| 5 | 10 | 15 | |
| Tyr Asp Ser Thr Ile Ser Arg Val Leu Trp Ile Leu Ser Met Val Val | | | |
| 20 | 25 | 30 | |
| Val Ser Ile Thr Phe Phe Leu Gly Val Leu Gly Asn Gly Leu Val Ile | | | |
| 35 | 40 | 45 | |
| Trp Val Ala Gly Phe Arg Met Pro His Thr Val Thr Thr Ile Trp Tyr | | | |
| 50 | 55 | 60 | |
| Leu Asn Leu Ala Leu Ala Asp Phe Ser Phe Thr Ala Thr Leu Pro Phe | | | |
| 65 | 70 | 75 | 80 |
| Leu Leu Val Glu Met Ala Met Lys Glu Lys Trp Pro Phe Gly Trp Phe | | | |
| 85 | 90 | 95 | |
| Leu Cys Lys Leu Val His Ile Val Val Asp Val Asn Leu Phe Gly Ser | | | |
| 100 | 105 | 110 | |
| Val Phe Leu Ile Ala Leu Ile Ala Leu Asp Arg Cys Ile Cys Val Leu | | | |
| 115 | 120 | 125 | |
| His Pro Val Trp Ala Gln Asn His Arg Thr Val Ser Leu Ala Arg Lys | | | |
| 130 | 135 | 140 | |
| Val Val Val Gly Pro Trp Ile Phe Ala Leu Ile Leu Thr Leu Pro Ile | | | |
| 145 | 150 | 155 | 160 |
| Phe Ile Phe Leu Thr Thr Val Arg Ile Pro Gly Gly Asp Val Tyr Cys | | | |
| 165 | 170 | 175 | |
| Thr Phe Asn Phe Gly Ser Trp Ala Gln Thr Asp Glu Glu Lys Leu Asn | | | |
| 180 | 185 | 190 | |
| Thr Ala Ile Thr Phe Val Thr Thr Arg Gly Ile Ile Arg Phe Leu Ile | | | |

| | | |
|---|-----|-----|
| 195 | 200 | 205 |
| Gly Phe Ser Met Pro Met Ser Ile Val Ala Val Cys Tyr Gly Leu Ile | | |
| 210 | 215 | 220 |
| Ala Val Lys Ile Asn Arg Arg Asn Leu Val Asn Ser Ser Arg Pro Leu | | |
| 225 | 230 | 235 |
| Arg Val Leu Thr Ala Val Val Ala Ser Phe Phe Ile Cys Trp Phe Pro | | |
| 245 | 250 | 255 |
| Phe Gln Leu Val Ala Leu Leu Gly Thr Val Trp Phe Lys Glu Thr Leu | | |
| 260 | 265 | 270 |
| Leu Ser Gly Ser Tyr Lys Ile Leu Asp Met Phe Val Asn Pro Thr Ser | | |
| 275 | 280 | 285 |
| Ser Leu Ala Tyr Phe Asn Ser Cys Leu Asn Pro Met Leu Tyr Val Phe | | |
| 290 | 295 | 300 |
| Met Gly Gln Asp Phe Arg Glu Arg Phe Ile His Ser Leu Pro Tyr Ser | | |
| 305 | 310 | 315 |
| Leu Glu Arg Ala Leu Ser Glu Asp Ser Gly Gln Thr Ser Asp Ser Ser | | |
| 325 | 330 | 335 |
| Thr Ser Ser Thr Ser Pro Pro Ala Asp Ile Glu Leu Lys Ala Pro | | |
| 340 | 345 | 350 |

<210> 7

<211> 1053

<212> DNA

<213> Mouse

<400> 7

| | | | | | | |
|-------------|-------------|------------|------------|------------|-------------|-----|
| atggaatcca | actactccat | ccatctgaat | ggatcagaag | tggtggttta | tgattctacc | 60 |
| atctccagag | ttctgtggat | cctctcaatg | gtgggtgtct | ccatcacttt | cttccttgggt | 120 |
| gtgctggca | atggactagt | gattgggta | gctggattcc | ggatgccaca | cactgtcacc | 180 |
| actatcttgt | atctgaatct | agcattggct | gactttctt | tcacagcaac | tctaccattc | 240 |
| cttcttgtt | aatggctat | gaaagaaaaa | tggcctttt | gctggttcct | gtgtaaattta | 300 |
| gttcacattt | tggttagatgt | aaacctgttt | ggaagtgtct | tcttgattgc | tctcattgcc | 360 |
| ttggaccgct | gcatttgtgt | tctgcatcca | gtctgggctc | agaaccaccg | cactgtgagc | 420 |
| ctggcttagga | aggtgggtgt | tggccctgg | attttgctc | tgattctcac | tttgccttatt | 480 |
| tttattttct | tgactactgt | tagaattcct | ggaggagatg | tgtattgtac | attcaacttt | 540 |
| ggatcctggg | ctcaaactga | tgaagaaaag | ttgaacacag | ctatcacttt | tgtaacaact | 600 |

agagggatca tcaggttctt tattggtttc agcatgccca tgtcaattgt tgctgtttgc 660
tatggactca ttgctgtcaa gatcaacaga agaaacctg ttaattccag ccgtccctta 720
cgagtcctta cagcagttgt ggcccccctt tttatctgct gttttccctt tcagcttgc 780
gcccttttgg gcacagtctg gttaaagag acattgctta gtggtagtta taaaattctt 840
gacatgtttg ttaacccaac aagctcatttgc gcttacttca atagttgtct caatccgatg 900
ctctatgttt tcatgggcca ggacttcgt gagagatttgc ttcattccctt gccttatagt 960
cttggagagag ccctgagtgttgc ggattctggt caaaccagtgc attcaaggcac cagttctact 1020
tcaccccttgc cagacatttgc gttaaaggcc cca 1053

<210> 8

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 8

aaacagtcga ccaccatgga atccaaactac tccatccatc tg 42

<210> 9

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 9

ctttctagat catggggcct ttaactcaat gtc 33

<210> 10

<211> 24

<212> DNA

<213> Artificial Sequence

<220>
<223> Primer

<400> 10
atctgggtag ctggattccg gatg 24

<210> 11
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 11
tctttcatga aagtccctggc ccatgaa 27

<210> 12
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 12
aggaattcta actgttagtca tgaa 24

<210> 13
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 13
acagtttagag ggagccatcag gtcc 24

<210> 14
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 14
ataaagtgcg ccaccatggg agccaaactat tccatccctc tga 43

<210> 15
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 15
aaatcttagat catattgctt ttatataat gtttaca 37

<210> 16
<211> 13
<212> PRT
<213> Human

<400> 16
Met Phe Ala Asp Arg Trp Leu Phe Ser Thr Asn His Lys
1 5 10

<210> 17
<211> 15

<212> PRT

<213> Porcine

<400> 17

Met Thr Asn Ile Arg Lys Ser His Pro Leu Met Lys Ile Ile Asn
1 5 10 15

<210> 18

<211> 16

<212> PRT

<213> Porcine

<400> 18

Met Thr Asn Ile Arg Lys Ser His Pro Leu Met Lys Ile Ile Asn Asn
1 5 10 15

<210> 19

<211> 15

<212> PRT

<213> Human

<400> 19

Met Thr Pro Met Arg Lys Ile Asn Pro Leu Met Lys Leu Ile Asn
1 5 10 15

<210> 20

<211> 16

<212> PRT

<213> Human

<400> 20

Met Thr Pro Met Arg Lys Ile Asn Pro Leu Met Lys Leu Ile Asn His
1 5 10 15

<210> 21

<211> 15

<212> PRT

<213> Porcine

<400> 21

Met Phe Val Asn Arg Trp Leu Tyr Ser Thr Asn His Lys Asp Ile
1 5 10 15

<210> 22

<211> 15

<212> PRT

<213> Human

<400> 22

Met Phe Ala Asp Arg Trp Leu Phe Ser Thr Asn His Lys Asp Ile
1 5 10 15

<210> 23

<211> 18

<212> PRT

<213> Porcine

<400> 23

Met Thr Asn Ile Arg Lys Ser His Pro Leu Met Lys Ile Ile Asn Asn Ala Phe
1 5 10 15

<210> 24

<211> 18

<212> PRT

<213> Human

<400> 24

Met Thr Pro Met Arg Lys Ile Asn Pro Leu Met Lys Leu Ile Asn His Ser Phe
1 5 10 15